

EH MECHANICAL BOOSTER PUMP

THE INTELLIGENT CHOICE



The EH mechanical booster pumps feature the unique hydrokinetic drive, providing an efficient power transmission with benefits in economy, performance and compactness. The hydrokinetic drive provides pump down times cut by 50%, when compared with direct drive pumps, no bypass lines or pressure switches required, universal voltage motors, reduced capital and operating costs, air cooled motors – with water cooled options, and quiet, minimum vibration. The EH mechanical booster pumps, based on the simple Roots principle, remain the favorite pumps for applications where high pumping speeds over $3000 \text{ m}^3\text{h}^{-1}/1776 \text{ ft}^3\text{min}^{-1}$ are required in the pressure region of 0.01 to 50 mbar/0.0075 to 37.5 Torr. These must always be backed by another pump which can deliver against a high pressure differential to atmospheric pressure. Operating at relatively low pressures, the mechanical booster pump is not exposed to the same concentrations of corrosive process media as is the backing pump, which makes it highly reliable.



Features and Benefits

- Performance – fast pump down time due to unique hydrokinetic drive.
- Increased productivity – faster pump down time.
- More performance for less – larger displacement than equivalent competitor models.
- Stable operation – optimised clearances and after coolers.
- Simplicity – Continuous operation at all pressures.
- Simple installation – no need for pressure switches, bypass lines or variable frequency drives.
- Reliability – automatic overload protection, reliable shaft seal design.
- Safe operation – automatic overload protection.
- Robust operation even for harsh duties – proven shaft seal design to protect pumping mechanism and gearbox from cross-contamination.
- High uptime and low maintenance – internal evacuation of gearboxes extends shaft seal life.
- Reassurance.
- Peace of mind – industry proven with large installed base.

Applications

- Vacuum distillation.
- Vacuum packaging.
- Steel degassing.
- Thin film coating.
- Industrial freeze drying.
- Semiconductor processing.

Pump Range

EH

- EH250
- EH500
- EH1200
- EH2600
- EH4200
- PFPE Prepared
- EH250FX
- EH500FX
- EH1200FX
- EH2600FX
- EH4200FX



Technical Data



	Units	EH250	EH500	EH1200	EH2600	EH4200
Displacement (swept volume)						
50 Hz	m ³ h ⁻¹ /ft ³ min ⁻¹	310/185	505/300	1195/715	2590/1525	4140/2440
60 Hz	m ³ h ⁻¹ /ft ³ min ⁻¹	375/220	605/335	1435/845	3110/1830	4985/2935
Effective pumping speed with backing pump						
E2M40	m ³ h ⁻¹ /ft ³ min ⁻¹	240/141	350/206	840/495	-	-
E2M80	m ³ h ⁻¹ /ft ³ min ⁻¹	274/161	400/236	840/495	-	-
E2M175	m ³ h ⁻¹ /ft ³ min ⁻¹	-	440/259	930/548	1750/1031	-
E2M275	m ³ h ⁻¹ /ft ³ min ⁻¹	-	460/271	1020/601	1900/1119	3100/1825
Pressure differential across pump +						
50 Hz	mbar/Torr	0-180/0-140	0-110/0-83	0-90/0-68	0-120/0-90	0-70/0-52
60 Hz	mbar/Torr	0-150/0-115	0-90/0-68	0-75/0-56	0-67/0-50	0-50/0-38
Inlet connection		ISO63	ISO100	ISO160	ISO160	ISO250
Outlet connection		ISO40	ISO63	ISO100	ISO100	ISO100
Rotational speed						
50 Hz	rpm	0-2900 rpm				
60 Hz	rpm	0-3500 rpm				
Operating continuous inlet pressure	mbar/Torr	0-1000 mbar/0-760 Torr				
Maximum outlet pressure	mbar/Torr	1000 mbar/760 Torr				
Recommended backing pumps		GV80, E2M40, E2M80, ES100, 212J	GV80, E2M80, ES100, ES200, ES300, 212J, 412J	GXS160, GXS250, E2M80, E2M175, ES200, ES300, ES630, 212J, 412J, IDX1000, IDX1300	GXS250, GXS400, E2M175, E2M275, ES300, ES630, 412J, IDX1000, IDX1300	GXS450, E2M275, ES300, ES630, 412J, IDX1000, IDX1300
Electrical supply voltage, 3-ph						
50 Hz		200 V/380-400 V				
60 Hz		200 V/380 V/230 V/460 V				
Motor power						
Hydrocarbon	kW/hp	2.2/3		3/4		11/15
PFPE	kW/hp	2.2/3		3/4		11/15
ATEX	kW	2.2		3		11
Explosion proof		3		4		15
Ambient temperature range						
Operating	°C/F	5 to 40/40 to 104				
Storage	°C/F	-10 to 80/14 to 176				
Maximum operating humidity	RH	90%				
Cooling method		Air cooled	Air cooled	Water cooled+	Water cooled	Water cooled
Recommended oil						
Standard version		Ultragrade 20				
PFPE version		Fomblin® YVAC 16/6				
Oil capacity						
Gear case	litre	-	-	1.25	3.5	3.5
Coupling cover	litre	1.5		2.4	6.5	6.5 l
Shaft seal reservoir	litre		0.125			1.5
Weight	kg/lb	75/165	85/187	151/332	339/746	409/900

+ Depends on pressure